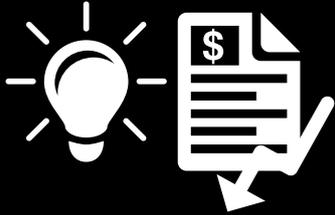


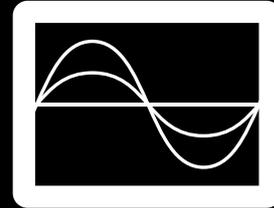


A brief guide to Power Quality and Energy Management

Power Quality



Power Factor Correction



Here at Captech our goal is to create the best possible electrical system for your needs.

Why?

Because we understand the implications of a less than ideal electrical system on your business. We have seen the effects of poor power factor, of voltage irregularities and of harmonics.

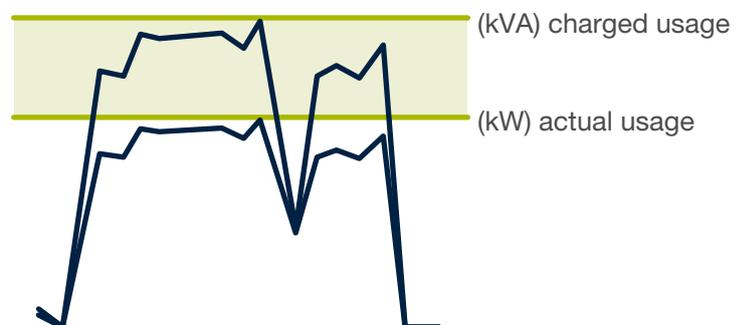
Power quality is an important consideration to any business that uses medium to large amounts of power. Chances are, inefficiencies in the supply of that power is costing you money. You may be paying for power that you do not use, or the quality of power you receive may be having detrimental effects on your equipment. High power bills, downtime and machine and equipment wear are all results of poor power quality.

Captech has over 50 years experience and an expert team that know what it takes to achieve the right result for you. We understand the complexities of power systems and have the precision instruments to pin point issues and opportunities to improve your quality of power.

Power quality is critical to efficient operation of equipment. One contributing element to power quality is power factor.

Power Factor Correction (PFC) aims to improve power factor, utilising capacitors to offset usually inductive loads, for example motors. PFC systems increase the efficiency of power supply, delivering immediate cost savings on electricity.

How does it work?



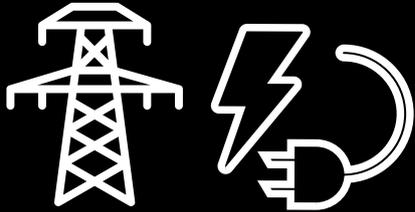
By using Captech's PFC equipment, the total amount of electrical demand is reduced, by reducing or eliminating wasted reactive power (kVAr), seen as the green portion in the above graph.

PFC prevents motor failure and overheating, electrical equipment failure, nuisance tripping, unstable operation, **with the highly desirable side effect of reduced energy bills.**

Using world's best suppliers and components, Captech manufacture solutions right here in Australia. Whether it's Power Factor Correction, Voltage Optimisation or Harmonics, we can achieve real and measurable results for your business.

We can perform an audit on your system and draw up a fully costed plan including likely power usage savings.

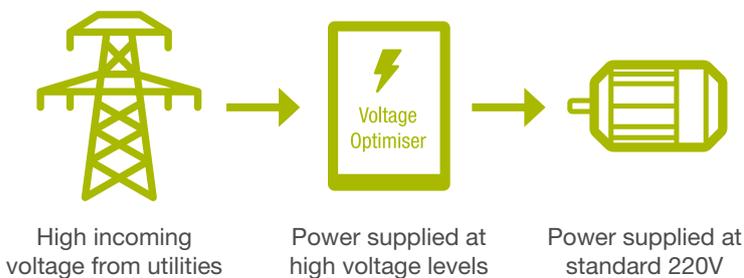
Voltage Optimisation



Voltage optimisation aims to reduce electricity usage costs and power demand by reducing supply voltage received.

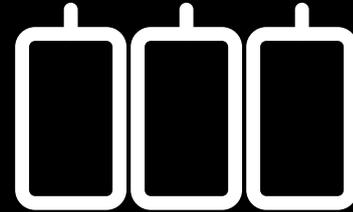
How does it work?

To account for voltage drop and customer loading, energy suppliers generally supply power at a higher voltage than that required to efficiently operate equipment. This can result in overheating, malfunctions and higher energy use and costs.



To ensure a stable and reliable power supply to plant and equipment **voltage optimisation** devices are installed in series with the incoming supply and the end user equipment, like motors. They maintain a steady and reduced output voltage, with independent phase control that further protects electrical equipment and prolongs equipment life. Further, the ability to adjust the incoming voltage allows for a reduction in harmonics and transient voltage spikes.

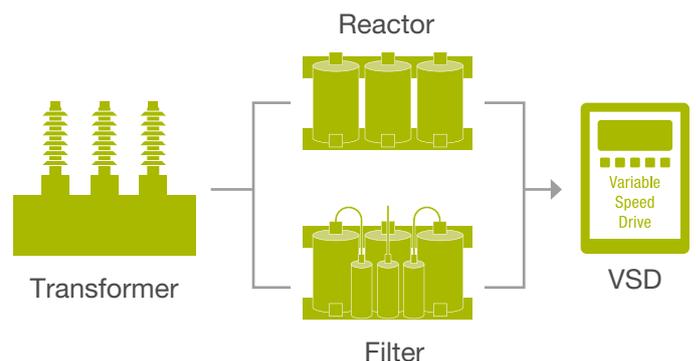
Filters and Reactors



Harmonic filtering can improve equipment performance and reduce energy costs by eliminating unwanted harmonics in electrical systems created by non-linear loads.

Harmonic voltages and currents are caused by non-linear loads such as variable speed drives (VSD), uninterruptible power supplies (UPS), low energy lighting and switched mode power supplies in devices such as personal computers.

Non-linear loads generate harmonics by drawing current in abrupt short pulses, rather than in a smooth sinusoidal manner, introducing currents of additional frequencies which are reflected back into the system, distorting the AC waveform.



What we offer

As a leading supplier of filter solutions in Australia Captech offer services to suit any installations and budgets. Our products range from efficient robust line reactors to the most sophisticated harmonic-eliminator passive filters.



Phone us on 1300 280 010 for an obligation free chat about your system and how power quality solutions can save you money.

Visit captech.com.au for more information on available solutions or email sales@captech.com.au.

